



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0820; Directorate Identifier 2010-NE-31-AD]

RIN 2120-AA64

Airworthiness Directives; Thielert Aircraft Engines GmbH Models TAE 125-01, TAE 125-02-99, and TAE 125-02-114 Reciprocating Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) that applies to all Thielert Aircraft Engines (TAE) GmbH Models TAE 125-01, TAE 125-02-99, and TAE 125-02-114 Reciprocating Engines. The existing AD currently requires installation of full-authority digital electronic control (FADEC) software version 2.91. Since we issued that AD, we have received reports of possible power loss on airplanes equipped with TAE 125 engines. This proposed AD would require removing all software mapping versions prior to 292, 301, or 302, applicable to the TAE engine model. We are proposing this AD to prevent engine power loss or in-flight shutdown, resulting in reduced control of or damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Thielert Aircraft Engines GmbH, Platanenstrasse 14 D-09350, Lichtenstein, Germany, phone: +49-37204-696-0; fax: +49-37204-696-55; e-mail: info@centurion-engines.com. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: alan.strom@faa.gov; phone: 781-238-7143; fax: 781-238-7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section.

Include “Docket No. FAA-2010-0820; Directorate Identifier 2010-NE-31-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On March 22, 2011 we issued AD 2011-07-09, amendment 39-16646 (76 FR 17757, March 31, 2011), for Thielert Aircraft Engines GmbH models TAE 125-01, TAE 125-02-99, and TAE 125-02-114 reciprocating engines installed in, but not limited to, Cessna 172 and (Reims-built) F172 series (European Aviation Safety Agency (EASA) STC No. EASA.A.S.01527); Piper PA-28 series (EASA STC No. EASA.A.S. 01632); APEX (Robin) DR 400 series (EASA STC No. A.S.01380); and Diamond Aircraft Industries Models DA 40, DA 42, and DA 42M NG airplanes. That AD requires installation of FADEC software version 2.91. That AD resulted from service experience that showed the FADEC channel B manifold air pressure sensor hose permeability was not always recognized as a fault by the FADEC. We issued that AD to prevent engine power loss or in-flight shutdown, resulting in reduced control of or damage to the airplane.

Actions Since Existing AD Was Issued

Since we issued AD 2011-07-09, we have received reports of possible power loss on airplanes equipped with TAE 125 engines. The preliminary investigation results have

shown that an undetected engine overspeed, due to a slipping clutch, may have contributed to these occurrences, in combination with other circumstances.

Relevant Service Information

We reviewed TAE Service Bulletin TM TAE 000-0007, Revision 19, dated August 31, 2012. The service information describes procedures for updating the affected FADEC software.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would retain none of the requirements of AD 2011-07-09. This proposed AD would require removing all software mapping versions prior to 292, 301, or 302, applicable to the TAE engine model.

Costs of Compliance

We estimate that this proposed AD would affect about 112 engines installed on airplanes of U.S. registry. We also estimate that it would take about 0.5 work-hours per product to comply with this proposed AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of the proposed AD to U.S. operators to be \$4,760.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2011-07-09, Amendment 39-16646 (76 FR 17757, March 31, 2011), and adding the following new AD:

Thielert Aircraft Engines GmbH: Docket No. FAA-2010-0820; Directorate Identifier 2010-NE-31-AD.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2011-07-09, Amendment 39-16646.

(c) Applicability

This AD applies to Thielert Aircraft Engines GmbH models TAE 125-01, TAE 125-02-99, and TAE 125-02-114 reciprocating engines installed in, but not limited to, Cessna 172 and (Reims-built) F172 series (European Aviation Safety Agency (EASA) STC No. EASA.A.S.01527); Piper PA-28 series (EASA STC No. EASA.A.S. 01632); APEX (Robin) DR 400 series (EASA STC No. A.S.01380); and Diamond Aircraft Industries Models DA 40, DA 42, and DA 42M NG airplanes.

(d) Unsafe Condition

This AD was prompted by reports of possible power loss on airplanes equipped with TAE 125 engines. We are issuing this AD to prevent engine power loss or in-flight shutdown, resulting in reduced control of or damage to the airplane.

(e) Compliance

Unless already done, do the following. Within 55 flight hours or within 3 months of the effective date of the AD, or during the next scheduled maintenance, whichever occurs first, remove all full-authority digital electronic control (FADEC) software prior to versions 292, 301, and 302. Tables 1, 2, and 3 to paragraph (e) provide the software mapping and respective part numbers for software versions 292, 301, and 302, installed on the TAE 125-01, TAE 125-02-99, and TAE-125-02-114 engines, respectively.

Table 1 to Paragraph (e) for TAE 125-01 Engines

Software Mapping	Part Number
T14V292CES	20-7610-55104R9
T28V292CES	20-7610-55105R7
T14V292PIP	40-7610-55106R9
T28V292PIP	40-7610-55107R7
T14V292APEX	60-7610-55106R9
T14V292DIA	50-7610-55105R9
R28V292DIA	50-7610-55107R5

Table 2 to Paragraph (e) for TAE 125-02-99 Engines

Software Mapping	Part Number
O14V301CES	20-7610-E000110
O28V301CES	20-7610-E001110
O14V301PIP	40-7610-E000110
O28V301PIP	40-7610-E001110
O14V301APEX	60-7610-E000110
O14V301DA40	50-7610-E000110
O28V301DA42	52-7610-E000505

Table 3 to Paragraph (e) for TAE 125-02-114 Engines

Software Mapping	Part Number
P14V302CES	20-7610-E002007
P28V302CES	20-7610-E003007
P28V302PIP	40-7610-E003007
P14V302APEX	60-7610-E002007
P14V302DA40	50-7610-E002007

(f) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

(g) Related Information

(1) For more information about this AD, contact Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: alan.strom@faa.gov; phone: 781-238-7143; fax: 781-238-7199.

(2) Refer to MCAI Airworthiness Directive No. 2012-0116, dated July 3, 2012, and Thielert Aircraft Engines Service Bulletin TM TAE 000-0007, Revision 19, dated August 31, 2012, for related information.

(3) For service information identified in this AD, contact Thielert Aircraft Engines GmbH, Platanenstrasse 14 D-09350, Lichtenstein, Germany, phone: +49-37204-696-0; fax: +49-37204-696-55; e-mail: info@centurion-engines.com. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on September 5, 2012.

Colleen M. D'Alessandro,
Assistant Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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